

709  
AN  
EPISTLE  
TO  
Dr. RICHARD MEAD,  
CONCERNING THE  
*Epidemical Diseases of VIRGINIA,*  
PARTICULARLY,  
*A Pleurisy and Peripneumony:*

Wherein is shewn the surprising Efficacy of the *Seneca Rattle-Snake Root*, in Diseases owing to a Viscidity and Coagulation of the Blood; such as *Pleurisies* and *Peripneumonies*, these being epidemick, and very mortal in *Virginia*, and other Colonies on the Continent of *America*, and also the *Lee-Ward Islands*.

To which is prefixt,

*A CUT of that most valuable PLANT:*

And an APPENDIX annexed,

Demonstrating the highest Probability, that this Root will be of more extensive Use than any Medicine in the whole *Materia Medica*, and of curing the *Gout*, *Rheumatism*, *Dropsy*, and many nervous Diseases.

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By JOHN TENNENT.

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*Natura, fortuna, providentia, fatum, nomina sunt unius  
Et ejusdem Dei, varie agentis in rebus humanis.* SENECA

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TRACT  
OF  
DR. RICHARD MEAD



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T O

Dr. *RICHARD MEAD.*

PPREHENDING, Sir, that many Discoveries might be made very useful to Mankind, by Means of a strict Enquiry after Plants which grow in many Parts of the World, the Efficacy of which, in several Diseases, being already known to the Inhabitants and Natives of those Countries where they are produced; whence, by probable Reasoning, their Efficacy may be deduced, in order for their Application in other Diseases, I made it my Business in *Virginia*, to enquire after Things of this Nature, as that Country produceth an infinite Number of Plants, whereby I came to understand, that a Plant grew there, the Root whereof would cure,

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*An Epistle to*

by internal Application, the Bite of a *Rattle-snake*, which is a Viper, whose Poison is of a greater Degree of Malignancy, than that of any other in that Country, and, I believe, equal to any known in any Part of the World ; for, it has been found, in many Instances, that the Bite of that venomous Creature is mortal in about Fifteen Minutes Time.

When I made particular Enquiry after this efficacious Root, I found, That there were several Roots called *Rattle-snake Root*, which, in the cooler Months of the Summer, when the Poison of the *Rattle-snake* is not at its greatest Height, would sometimes save the Patient's Life bit by that Viper ; but, in the hotter Months, when the Poison has a greater Degree of Virulence, was not effectual : However, at last, I was informed, by a Gentleman of undoubted Veracity, that there was a Root discovered by the *Seneca Indians*, which was a certain Remedy against the Bite of the *Rattle-snake*, when the Venom was even at the greatest Degree of Virulencs,

ruence, and was distinguished from other Roots of that Name, less powerful in their Efficacy, by the Name of *Seneca Rattle-snake Root*; That the *Indians*, and others, when hunting in the Woods, carried this Root powdered in their Shot-Bags, to be ready to take in the most expeditious Manner, in case they should have the Misfortune to be bit by that terrible Creature; That he himself had been bit by that Snake, when the Poison was at its greatest Height, and was recovered by taking the *Seneca Rattle-snake Root*; And that these *Indians* deduced the Efficacy of the Plant from the Resemblance which the Flowers and Root have to the Rattles of the Snake.

HEREUPON, being very desirous to see this Root, and a Person soon after being bit with that Snake, I had the Root brought me, which, upon tasting, I found consisted of a most active and attenuating Salt, wrapt up in a Balsamick Juice; for it is very pungent, but does not, upon first tasting, communicate



municate that Property: I was also informed by the Person who brought me the Root, that its Operation was *Cathartick*, *Diuretick*, *Diaphoretick*; and sometimes *Emetick*, if given in a very great Quantity.

NEXT, I had the Fortune to see two Patients the Day after they were bit by the *Rattle-snake*; and the Symptoms of their Case were like those which attend a *Pleurisy* or *Peripneumony*, viz. A quick high Pulse, Difficulty in Breathing, and a Cough, with spitting up, now and then, coagulated Blood: The Leg that was bit was much tumified, and of a livid Colour round the Bite; some of the Root bruised, and boiled in Milk, had been applied to the Bite; and they were continuing to take a Decoction of the Root in Milk, twice or thrice in a Day: They told me, That they took the Root in a dry Powder, presently after they were bit by the *Rattle-snake*, having it ready in their Shot-bags for that Purpose, in case of Need; That their Body was all over tumified, attended

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tended with great Sickness and Fainting;  
but, upon the Operation of the Root, that  
Symptom went off, and their Pulse, which,  
at first, was exceeding low, was raised in a  
short Time after taking it. These Patients  
were bit in the Month of July, when the  
*Rattle-snake's* Venom is most virulent.

NOTHING could be more obvious, than  
to conclude, That a Root which is endued  
with such great Efficacy, as to recover a  
Person bit by a *Rattle-snake*, whose Venom  
kills in Fifteen Minutes, and sometimes less,  
must be of very great Importance, in many  
Diseases. In *Virginia* I gave that Root in  
*Pleurisies* and *Peripneumonies*, with great  
Success; such Success, that it is unpreceden-  
ted. These Diseases are epidemical, and very  
mortal in that Country, and in several others  
adjacent, which the Letters wrote to you,  
and other Gentlemen in *London*, can testify;  
and also the unprecedented Success of the  
*Seneca Rattle-snake Root*, in the Cure there-  
of.

But,

BUT, tho' such notable Success has attended that Medicine, yet I judge it to be my Duty to lay the whole Matter before you; because you have given very ample Proofs of your great Discernment of Things that are of the most abstruse Nature in Physick, and of your Benevolence to Mankind, in communicating your useful Discoveries publicly to the World; and as it promises something very valuable to Mankind, from its surprising Efficacy against the Effect of the Venom of that Creature, and also in a *Pleurisy* and *Peripneumony*, I leave a further Enquiry therein to you.

BEFORE I proceed to give any Instances of the Efficacy of this Root, in any Case, I beg the Favour of your Attention to what I have to offer as my Reasons for deducing its Efficacy; for, methinks, that no Man should give any Medicine, which is not regularly warranted, without very sufficient Reasons: And herein I shall observe all possible Brevity.



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I OBSERVED before, that the Symptoms attending Patients that were bit by the *Rattle-snake*, were like those of a *Pleurisy* and *Peripneumony*: Now, to infer from the Likeness of Effects, that Causes are the same, without an Enquiry into the Causes in both Cases previous to their Production, cannot be a sound Way of Reasoning; because, in many Cases, different Causes will produce like Effects: And since no Disease can be cured without removing the Cause producing it, the Likeness of Effects, therefore, alone, cannot be a sufficient Reason to infer that the Causes are the same. So that I considered, that it was very requisite, in all Cases where Health and Life are at Stake, which are the most valuable Things to Mankind, to examine strictly into the Nature of the Causes from whence the Effects proceed; for tho', where, in two Cases, the Effects are alike, it is very reasonable to suspect that the Causes are similar, it is not to conclude that they really are, for the Reasons just now given.

THEREFORE I considered, that to infer justly that Causes are similar, when Effects are alike, in a Subject of so abstruse a Nature as Physick, was by the Application of one Thing to each Case, and then, if the Effects upon this continued to be the same, it is certainly a most evident Proof as can be, that the Causes are similar. Now, the two Cases in Hand do admit of a Proof of this Nature in a most clear Manner.

I N your Book of Poisons, Sir, where you treat of the *Viper*, you recommend the *volatile Salt of Vipers*, to quicken the *Circle of the Blood*, after the *Coagulum* is produced therein, by Means of the *Viper Bite*, and give an Instance of its Efficacy in that Case. In a *Pleurisy*, or *Peripneumony*, it is well known that the Blood is coagulated, or in a State of Viscidity: *The volatile Salt of Vipers* I have given in these Diseases, with very good Success, and do suppose that others have done the same; from whence it follows, that the Coagulations in these two Cases

Cases must be analogous; otherwise the *volatile Salt of Vipers* would not in both have a good Effect. That the Analogy in the two Coagulums, or States of Viscidity, is absolutely the same, is what I am very far from saying; but to me it appears extremely probable, that in some material Circumstances there must be a very near Relation; otherwise, as I said before, the Effect of the *Salt of Vipers* would not be to the Patient's Advantage in both Cases.

Now, since it is allowed, that the *Rattle-snake* and *Viper's Venom* are the same in Quality, and only differ in this, That the Venom of the former is of a greater Degree of Virulence than that of the latter; then it follows, *a fortiori*, that the *Seneca Rattle-snake Root*, which cures the Bite of the former, must have a greater Effect in a *Pleurisy* and *Peripneumony*, than the *volatile Salt of Vipers*.

THESE, Sir, were my Reasons, for deducing the Efficacy of the *Seneca Rattle-snake*



River, in a *Pleurisy* and *Peripneumony*, and I could offer more; but as these, I think, appear to me palpable enough not to incur any Censure for my Procedure, I shall leave those to find more clear Proofs of an Analogy between the two Cases, whose superior Genius renders them more equal to such a Task, and next take Notice of the epidemical Diseases to which *Virginia* is subject, the Times of the Year they invade, and the Circumstances of that Climate, so far as its Diseases appear to me to depend upon them.

From the first of *June* to *August*, continued *Periodical Fevers* and *Intermittents* are epidemical; and then *Agues* preceed the latter till *October*, when *Pleurisies* and *Peripneumonies* begin to be common, and continue till *May* or *June*, tho' seldom epidemick in *April* and *May*. I have observed some Years, that instead of *Agues* and *Intermittents*, a *Cholera Morbus* is epidemical about *August*; and whether it was occasioned from any Difference in the Temperature of the Air, from that which constitutes *Agues* and *Fevers*

Every other Year, on from eating of Fruits, such as Apples, Peaches, &c. and drinking new Syder, or from other Causes, I could not well determine, till I observed, that those Years when there was no Fruit in Virginia, a *Cholera Morbus*, *Diarrhea*, *Dysentery*, &c. were very common and mortal: So that I infer, drinking of new Syder, and eating of Fruits, may cause a Translation of that morbifick Matter to the intestinal Glands, which, without them, would have constituted an *Ague* and *intermitting Fever*; and so either form a *Cholera Morbus*, *Diarrhea*, or *Dysentery*, according to the Circumstances of the Constitution, which are more dangerous than any of these Diseases solely depending upon the Temperature of the Air, or other common Causes, producing epidemical Diseases that Year,

AFTER an excessive hot Summer, a *spurious Peripneumony*, *nervous Pleurisy*, and sometimes a *Paraphrenitis*, are common in October, and continue till February, when they begin to translate, and especially the former,

mer, to a *Pleurisy* and *Peripneumony*, more of the genuine Kind, and like those in *Brittain*.

As to the common chronical Diseases of that Country, they are *Consumptions* of several Kinds, *Dropsy*, *Jaundice*, *Cachexy*, *Symptomack Asthma*, *Periodical Cholick*, and *Colliquative Diarrheas*. Now, as all these are, by the most eminent Authors, accounted for from Obstructions in the Vessels, and Viscidities of Blood, I shall take Notice of the Circumstances of the *Virginia* Climate, and also of other Causes, by which these Diseases are, in all Probability, produced.

THAT Country being in the Latitude of 37, is very hot in Summer Time; the Atmosphere, therefore, must have a less Pressure upon the Lungs, and Circumference of the Body, than in a Country of a greater Latitude, because the Tension, or Rarefaction of the Air, is much greater in a hot, than cold Country: Whence it follows, that  
the



the Blood of the Inhabitants of *Virginia*, is naturally more viscid, than that of those in a Country more Northward.

Again, that Country abounds with Rivers, Creeks, Marshes, and low Grounds; the Heat of the Sun, therefore, must exhale the Water to a very great Degree in Summer Time, whereby the Air will become very damp and foggy; which must conduce to bring on Relaxations of the Solids in several Ways, and consequently a Viscidity of Blood.

And again, the common Diet of the People, from the middle to the lowest Rank, and also that of the *Negroes*, is such that certainly must produce a fizy Blood, viz. Fish, Milk, *Indian* Corn, Potatoes, Melons, Cucumbers, Pork, and indeed most such Things. Add to this, that their Circumstances will not afford them a moderate Use of spiritous Liquors, which would stimulate the Solids, and break Cohæsions of the Blood.

And

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AND further, the Country being upon the Continent, and that running Northward, is liable to the most sudden Vicissitude of Weather: The Wind being Southwardly, the Weather is warm, tho' in Winter Time; but when a Northward Wind comes, the Cold is so intense, as hardly to be believed by any but those who feel it; and, as this Change happens in a few Hours, the Sense of Cold must be so much the greater, and also its ill Effects upon the human Body, by shutting up the Pores of the Skin, when the Solids are in a State of Relaxation, and the Blood, and other Fluids consequently viscid. So that it is very evident whence it comes to pass, that *Pleurisies* and *Peripneumonies*, of several Kinds, are the epidemical Diseases upon the Approach of Winter, and through all that Season of the Year, till the Weather is more constantly warm, and relaxes the Solids, by which these Diseases are translated to those less dangerous, *viz. Intermittents*, and *Agues* and *Fevers*.

I COULD enumerate many more Circumstances, to shew the Reason why all the Diseases of *Virginia* arise from Viscidities and Coagulations of the Blood; but these already mentioned, I think, are sufficient, as I here propose all possible Brevity: And therefore, I shall now make some Observations on a *Pleurisy* and *Peripneumony*, such as are epidemick in *Virginia*; and also on a *Paraphrenitis*; which last, in the Course of Ten Years Practice, I found to be the epidemical Disease for two Winters.

I ALWAYS observed, that after an excessive hot Summer, wherein there had been much Rain, *Pleurisies* and *Peripneumonies* were nervous; the latter agree, in most Circumstances, with Doctor *Boerhaave's* Account of a *spurious Peripneumony* (a); Blood-letting, either in the former, or latter, is of ill Consequence, unless in Patients of a very plethorick Habit of Body; and even in such,

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(a) *Boerhaave's* Practical Aphorisms, Page 234.



it must not be above once performed : The Reason of this appears to me to be owing to the State of Relaxation of the nervous System, proceeding from the Causes before mentioned ; by which, when the Quantity of Blood is reduced, the *Equilibrium* between the Contraction of the Solids and Resistance of the Fluids, on which Life and Health depends, is destroy'd ; from whence ensues a Stagnation of the Blood, either total, or in some Measure.

ON the other Hand, I have observed, that when the Summer has been moderate, pretty free from Rain, and accompanied now and then with Northwest Winds, *Pleurisies* and *Peripneumonies* of the inflammatory Kind, were common on the Approach of Winter ; and that the Cure of such consisted in Bleeding, with proper Methods to break the Cohesions of the Blood. To such Patients a great many Blisters are hurtful, tho' commonly prescribed in such Cases, but one or two are of Service. I made the same Observation as to nervous *Pleurisies* and

and *Peripneumonies*, and found, that really the Cure in both Cases consisted of the same Kind, *viz.* *Quickening the Circle*, and attenuating the Texture of the Blood, save only, that in those more inflammatory, Bleeding was necessary. So that from this Account it appears to be very probable, that the remote Causes which I have assigned for the Production of these Diseases, are the real ones; because, there is such an Agreement between the Change of the Weather and Climate, with their Change. Upon opening the Bodies of *Pleuritick* and *Peripneumonick* Patients, I have found the Lungs and *Pleura* both affected; in the former Sort it always was so, attended with an Adhesion; but in the latter, I have seen Instances when the Lungs only were affected; therefore, as I never knew, nor could ever hear, upon strict Enquiry, of any Difference in the Symptoms of such Patients, I conclude, that in *Virginia* there is no such Disease as a genuine *Pleurisy*, and consequently, that the epidemical Disease, known by the Name of a

*Pleurisy*, is, improperly speaking, a *Pleurisy* and *Peripneumony*, either nervous or inflammatory.

I HAVE taken notice, that these Patients invaded with a *Pleurisy* and *Peripneumony*, after having, for a considerable Time, been affected with *Agues* and *Intermittents*, seldom recover; and especially, if many *Blisters* are applied, or copious Bleeding used: The Blood of such Patients, I always found to be viscid and glutinous; from which it would appear, that *Blisters* and all *Stimuli* must needs be very proper to attenuate and dissolve it; but, since, in Fact, it is otherwise, then 'tis demonstrated, that the Texture of the Blood, in such a Case, is much broken; whence proceeds the *Coagulum*. I have also found, that all refrigerating Medicines are here of the worst Consequence; and that the Cure consists in that which moderately warms, and gently attenuates the Blood; and indeed of most other *Pleurisies* and *Peripneumonies* in *Virginia*, save only, that



that Blood-letting is more requisite with such Operations, in Cases more inflammatory: But it is most certain, that the best Methods prescribed by the most eminent Authors, are deficient in many Cases of these Diseases in *Virginia*, tho' duly complied with; and then these Methods, were they never so sufficient, cannot be followed duly in all Places of that Country, for several Reasons.

Hence I plainly saw, of what Importance it must be, to the Country, to have a Medicine which plentifully produces, to cure the several Kinds of that epidemical and mortal Disease to which it is subject; and therefore, I made no Secret of my Discovery of the certain Efficacy of the *Seneca Rattle-snake Root* against them, but immediately published it, without the least Reserve; as also my Opinion of its Use in other Diseases.

A *Paraphrenitis*, I observed to be the epidemical Disease of *Virginia*, in the Years 1730, and 1735; and was as mortal as a

*Pleurisy*

*An Epistle to*

*Pleurisy or Peripneumony of any Kind that I ever had seen: But every Patient that had the Rattle-snake Root, I found recovered in a Day or two after I began giving it in the Method, as will further appear. I had an Opportunity of giving that Medicine to several such Patients, in the Years 1734, and 1735, and such was its Effect, that I can say, it suits that Disease admirably well. I have, some Years, now and then, found a Patient labouring under a Paraphrenitis, but never knew it to be epidemical, except in the Years before mentioned.*

FROM these Accounts of the epidemical Diseases of *Virginia*, it is plain, that they are owing to Obstructions in the Vessels, Viscidities, and Coagulations of the Blood; and consequently, that the Fevers of that Country are *Symptomack*: It certainly must be so; for, during the whole Course of my Practice, I never met with a *Legitimate Fever*, nor could ever, upon the most diligent Enquiry, hear of a Disease that had been there so circumstanced, that

I could infer to be a *Fever* of any other Kind than *Symptomick*. How it comes to pass that some Years *Pleurisies* and *Peripneumonies* are different from what they are in others, and that a *Paraphrenitis* is sometimes epidemical, is what, I think, may be accounted for from probable Reasoning: But, since the Subject of Physick is of such an abstruse Nature, as not to admit of Demonstration to such Certainty, but what may, perhaps, by some Sort of Men, be cavil'd at, I shall therefore avoid touching upon any Rationale, to solve that Matter, especially, as the present Occasion does not directly require it, my Design being to represent to you the epidemical Diseases to which *Virginia* is subject, and the surprising Efficacy of the *Seneca Rattle-snake Root*, in a *Pleurisy* and *Peripneumony* of several Kinds, that thence useful Deductions may be made to Mankind: And therefore, I shall now begin and state those Cases which appear to me most worthy of your Attention.



I SHALL first take Notice, that the general Success of the *Rattle-snake Root*, in a *Pleurisy* and *Peripneumony*, is recovering the Patient the second or third Day, by the Method as follows.

FIRST, When the Patient is taken, if the Case is inflammatory, ten Ounces of Blood is taken from the Arm, and three Spoonfuls of a Decoction of the *Rattle-snake Root* given immediately after, and repeated every six Hours. This Decoction is three Ounces of the Root bruised and boiled in a Quart of Spring Water, till near one Half is evaporated. Bleeding is repeated, if the Pain should return, or Fever increase; but it seldom happens that either do, if the Patient is let Blood as soon as taken, and the Decoction continued duly every six Hours. Expectoration is, by this Medicine, most powerfully and expeditiously raised, and also the Spirits of the Patients exalted, and the Blood-attenuated: So that, *Blisters*, *Volatiles*, *Pectorals*, and such Things, calculated for that  
End

End, are not wanted; the Use of them being complied with by this one Thing, far better.

IF the Case is nervous, the Decoction of the Root is given in the same Manner, without Bleeding; and the Success here is rather greater than in an inflammatory Case, the Patient recovering in a shorter Time. The Powder of the Root I also have given in such Cases, and also in those that are inflammatory, with the same Success as the Decoction, with this Difference, That the Patient does not find Ease of Pain or Restlessness so soon, by about an Hour, as when the Decoction is given: The Dose of the Powder is thirty five Grains. The Operation of the Root being *Diuretick*, *Diaphoretick*, *Cathartick*, and sometimes *Emetick*, I prevent the two latter Operations, when I apprehend that they are inconsistent with the Patient's Case, by mixing any of the *Teffacea* with the Powder, and giving them in *Weak Cinnamon-Water*, and so in like Manner

ner with the Decoction: And when I find that a Patient's Case requires those Operations, I encourage them in a proper Manner, as if an *Emetick* or *Cathartick* had been given. But it seldom happens that this Root is *Emetick*, unless given in a double Dose, and, so far as it is *Cathartick*, generally speaking, must certainly, with its other Operations, suit excellently well a *Pleurisy*, *Peripneumony*, or *Paraphrenitis*.

Thus having shown the general Method of treating these epidemical and mortal Diseases of Virginia, with the *Seneca Root-Snake Root*, I shall next state some particular Cases.

### CASE I. Decemb. 10. 1734.

A MAN, aged Thirty, was attack'd with a *Pleurisy* and *Peripneumony*, to a very great Degree. *Copious Bleeding*, *Pectorals*, *Volatiles*, *Blisters*, and all the usual



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but I now find that the usual Methods had been complied with, till the 17, when I was called to him: The Symptoms were as follow, A quick, low and intermitting Pulse, difficult Breathing, irksome Cough, Expectoration stopt, an acute Pain of his Side and Breast, Delirium, limpid Urine, and an hippocratick Face.

THIS being the first Patient I met with, after I had determined to try the Efficacy of the *Seneca Rattle-snake Root* in a *Pleurisy* and *Peripneumony*, I was inclined for a little Time not to give it, because I could not judge it to be a fair Trial, as it manifestly appeared from all those Symptoms, that there was the most imminent Danger: But, upon second Thought, I determined to give it, for as I never had seen such a Patient recover, let the Effect of the Root be what it would, I had not the least Reason to blame my self in the Matter: Accordingly, I gave him three Spoon-fulls of the Tincture of the Root, which is made by digesting four Ounces thereof in two Pound of Canary,

or Mountain Wine, in a Sand Heat. I asked him, in about half an Hour, how he found himself; who answered, That he was warm and easy: From this, apprehending him to be delirious, I looked upon him, and asked him several Questions, to which he gave me very proper Answers: His Pulse was now regular, and in some Degree raised. This advantageous Change continued for two Hours; then he breathed with more Difficulty, and his Cough was very troublesome; Upon this I gave him two Spoonfulls more of the Tincture of the Root, with which he had Intervals of Ease, tho' the Cough was very troublesome. By this Time he had a very full, quick, and regular Pulse, and continued much the same for six Hours; then he had a loose Stool, after which he was more easy than before, and Expectoration began to be easy and copious; so that his Intervals of Ease were large, whereby he slept, with only a small Interruption, occasioned, I think, from his Cough.

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I REPEATED the Dose of the Tincture, and ask'd him, in about an Hour afterwards, how the Pain of his Breast and Side was, who told me, That he felt it not, except when the Cough was troublesome. He complain'd that his Urine was very sharp, whereupon I directed that some of it should be put into a Phial; and I ordered the Tincture to be continued every six Hours, and to give him for ordinary Drink, a Tea made of *Majsb. Mallow Roots*, sweetned with Honey, and, in case he inclined to take any Sustainante, that *Panada*, or weak Chicken Broth, should be his Food. Having attend'd him nine or ten Hours, I left him, with these Directions to be punctually complied with.

ON the 18th, I found him much better than when I left him, and the Urine which was put by, had a Sediment of a Brick Dust Colour: Expectoration was very easy and copious, the Deliriums gone off, a full regular Pulse, and not much raised; the Pains of his



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the last of January, he was as strong and  
his Side and Breast almost quite gone, Re-  
piration very easy, and the hippocratick  
Look quite vanished. His Friends told me,  
That the third Dose of the Tincture purged  
him twice, but afterwards it had no such  
Effect.

CASE II. Decemb. 18. 1734.  
ON the 19th he was apparently recover-  
ed; but, nevertheless, I ordered the Conti-  
nuance of the Tincture every eight Hours,  
till the 21st, when his Recovery was beyond  
all Question.

IT is very common in *Virginia*, that such  
Patients as this are subject to *Hectic Fevers*,  
with a violent Cough, after so severe a Dis-  
ease, which very often kills them in three or  
four Months Time; and therefore, in this  
Case, I proposed to have prevented this Con-  
sequence, by *corroborating Bitters*, *Chaly-  
beats*, *Alteratives*, *Restoratives*, &c. but  
to my Surprise, I found him recover faster  
than most Patients after a slight Disease of  
this Sort; for, in ten Days Time, after the  
21st, his Cough intirely left him; and by  
the

the last of January, he was as strong and  
lusty as ever; and therefore I gave him no  
such Medicines as I proposed, to prevent his  
falling into a consumptive State.

## CASE II. Decemb. 18. 1734.

A Man about Forty Years old was seized  
with a *Pleurisy* and *Peripneumony*, af-  
ter a long Indisposition from *Agues* and inter-  
mitting Fevers, and a *Cachectical State*.

On the 10th, I found the very worst  
Symptoms attend him, viz. an intermitting  
low Pulse, difficult Respiration; violent  
Cough, Delirium and Purgings.

I IMMEDIATELY took away from the  
Arm ten Ounces of Blood, and gave him  
afterwards thirty Grains of *Rattle-snake*  
*Root*, with fifteen Grains of *Species pro E-*  
*lect. Diascoridi*, in a Glass of *small Cinnamon-*  
*Water*. In an Hour he told me, That he  
was much more easy, which appeared very  
plainly

plainly by his breathing free; for he was almost suffocated till he was let Blood, and took the Root. In two Hours the Delirium came on, and continued for about Half an Hour; I then repeated the Dose as he had before, whereupon the Delirium returned with very great Violence. Upon this being at a Stand, I determined to give nothing till I could judge, with some Clearness, of the Cause of this Return of the Delirium; his Pulse was also extremely quick, low, and intermitting. I could not suppose that the Delirium was owing to too great a Quantity of Blood, because its Circulation, when I let him Blood, demonstrated the contrary;

WHILE I was considering what was most proper to be done, a Vomiting arose; and after that ceased, I found his Pulse full and regular, and the Delirium went entirely off in Half an Hour after. Being under a Necessity of visiting other Patients, I left him, and gave the following Directions.

THAT



THAT all his Drink should be a Tea made of *Marsh Mallow Roots*, sweetned with Loaf-Sugar: That every six Hours the Powder, as before, should be given; and to send me an Account of his Case, if he should grow worse.

ON the 20th I visited him, and found him sitting up, much in the same Condition as Patients commonly are after the Crisis of such a Disease. I then examined into the State of his Urine, and found a small white Sediment, with Clouds of the same Colour. Upon this I proposed, that notwithstanding he was apparently so well, he should continue taking the Powder: But he represented to me, that he was pretty well, and desired to be excused, till he saw how he continued. But I apprehending, as there was no Sediment of a Brick Dust Colour in the Urine, which I always found to be the true Crisis of that Disease, that there must be some latent Matter, which would certainly soon appear in some Shape or other; therefore I

E

insisted

infected on his taking it, which he accordingly did.

On the 1st, there was a Sediment of a Brick Dust Colour in his Urine; and he afterwards told me, till that Sediment appeared, he had an aching in his Bones, as he term'd it, which convinced me that there was some morbidick Matter skulking, which, in all Probability, would have produced a new Invasion of the Disease, had not the Root, by its active and stimulating Property, reduced it to a due Fitness for its Expulsion by Urine, which is the Crisis of a *Pleurisy*, or *Peripneumony*. This Patient was in a perfect State of Health, in twenty Days after the red Sediment appeared in his Urine.

I THINK it fit to make this Observation, because, commonly after these Diseases to so great a Degree, the Patient is some Months weak and low, before he perfectly recovers. And from hence most evidently appears, that the State of the Blood on which

the

the Disease depends, is perfectly chang'd by  
the *Seneca Rattle-snake Root*. bib. vi

I SHALL add one Observation more upon this Patient's Case, viz. That the Purging attending his Disease from the Beginning, is generally a sure Symptom of not recovering, in *Virginia*; for, as it is not a critical Discharge of the Humours, it must therefore leave the Blood in a most sly State, since the Cause of these Diseases is a Viscidity, or Glawillness of the Blood, as I have shew'd, Page 15. and appears in this Case in a particular Manner, as he had been affected some Time before the Invasion of the Disease with *Agues* and *intermitting Fevers*. Now, notwithstanding of this, he recovered; and I dare venture to say that he would not, had I not stop't the Purging in the Manner I did; for, as I just now observ'd, the Continuance of the Purging must have rendered the whole Mass of Blood so viscid, that a total Stagnation thereof would certainly have been the Consequence; and this same Consequence



quence would, also have been unavoidable, had I given Opium to effect that Purpose. For, as the Circulation of the Blood is very languid in such Diseases, then whatever will cause a Cessation of the Action of the animal Spirits, or muscular Fibres, must, in such a Case, induce a Stagnation of the Blood; and that Opium does this, is well known. And in this Case, does also appear the Usefulness of the emetick Quality of the Root; for it appeared, that after the second Dose of the Powder, the Patient was more delirious, but upon Vomiting, it went off with the other Symptoms.

THIS, I think, is plainly to be accounted for; because, when the Purging was stop'd by giving the *Species Dioscoridi*, the Vessels must be afterwards more full; add to this, the Root dividing and attenuating the Blood; then 'tis plain, that tho' there was a Tendency towards removing the Viscidity from these Operations, yet this Inconvenience was unavoidable from the Circumstances of the Case, till the Muscles of the *Thorax* and *Abdomen*

~~Admission exerted themselves, by which the~~  
 Vibration of the Fibres was continued to  
 the *Capillaries* of the Brain, and other Pla-  
 ces where the Stagnation was, on which the  
 Delirium depended; by which Vibration, the  
 Stagnation was removed, and all its Conse-  
 quences; as appeared in this Patient's Case;  
 Wherefore, tho' *Emetics* are generally hurt-  
 ful in *Pleurisies*, yet, in some Cases of that  
 Nature, the mild Operation of some Sort of  
 them may be of very great Use.

### CASE III. January 10, 1735.

A MAN, aged about Twenty five, was  
 seized with a *Paraphrenitis*, attended  
 with the following Symptoms, *viz.* A most  
 acute Pain of his Breast, intense Fever,  
 Cough, Difficulty in Breathing to a very  
 great Degree, Nausea, Delirium, and was  
 sometimes convulsed.

He IMMEDIATELY took away ten Oun-  
 ces of Blood from the Arm, and, in an Hour  
 after,

after, gave him three Spoonfuls of the  
*Tincture of Rattlesnake Root*. This he  
 immediately vomited up; then I gave him  
 one Spoonful more, with the like Quantity  
 of *Small Cinnamon-Water*, and ten Grains  
 of the *Salt of Wormwood*: This he kept u-  
 pon his Stomach: In two Hours I repeated  
 the Dose, and ordered it to be so continued,  
 and left him.

ON the 11th I visited him again, and  
 found him much better, as to every Symp-  
 tom, except the Fever; I took away ten  
 Ounces of Blood from the Arm, and gave  
 him the *Tincture of the Root* as before,  
 which, by continuing it every two Hours,  
 purged him about four Times in a Day.

ON the 12th, he was, in all Respects,  
 apparently clear from his Distemper; yet I  
 ordered the Continuance of the *Tincture* till  
 the 13th, when I examined his Urine, and  
 found the same Sediment as that in a *Pleurisy*:  
 Then I judged that no more of the  
*Tincture*



Tincture would be proper; And therefore, ordered nothing else to be given.

ON the 14th I found him continuing to grow better; and he perfectly recovered, without any other Medicine than what I have now mentioned. I find that in this Disease, tho' nearly related to a *Pleurisy*, Expectoration is not so copious.

#### CASE IV. January 10. 1735.

A WOMAN, about Twenty two Years old, was invaded with a *Parapneumonia*, attended with the following Symptoms, Intense Fever, Convulsions, particularly of the *Scorbiculus Cordis*, Deliriums, great Difficulty of Breathing, Cough, Sneezing and Vomiting.

I took away ten Ounces of Blood from the Arm, and, immediately after, gave one Spoonful of the Tincture of the Rattle-snake Root, mixed with the same Quantity of

Small

*Small Cinnamon-Water*, wherein was dissolved ten Grains of the *Salt of Wormwood*, but not one Minute did it stay upon her *Stomach*; then I repeated it, but with the same Success: Next I gave this Bolus, viz. *Rattlesnake Root* reduced to an impalpable Powder Fifteen Grains, *Salt of Wormwood* Eight Grains, *Syrup of Lemons* enough to make a Bolus: This she kept, and the Vomiting seem'd to cease. In two Hours I repeated the Bolus, and left her, directing that it should be repeated every two Hours, and, in case the Vomiting returned, to repeat Bleeding.

ON the 11th she was much better, the Fever being abated, Expectoration easy, the Convulsions at the *Scorbiculus Cordis* quite gone, and, in short, all the Symptoms almost quite gone off. Bleeding had not been repeated, there being no Occasion for it. The Bolus was continued every four Hours, till the 13th, that she was perfectly recovered: The Operation of the Root by Stool, was,  
in

in this Case, much the same as the others  
and also the Sediment in the Urine on the  
Thirteenth.

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## CASE V. January 11. 1735.

A MAN, aged about Twenty eight,  
had been ill of a *Paraphrenitis* from  
January Seventh: I was applied to only  
for Advice, but not being able truly to  
collect the State of his Case, I gave Notice,  
that unless I saw him, I did not care to  
prescribe: Whereupon I was sent for, and  
found his Case as follows.

A MOST intense Fever, and most exqui-  
site Pain in his Breast, so very exquisite,  
that the Patient declared, That so great was  
his Pain upon Breathing, that, if it was pos-  
sible for him to cease Breathing, he would;  
had a *Delirium* now and then, and was  
convulsed at the *Scorbiculus Cordis*, upon  
coughing, which also was very frequent.

F

He



He had been three Times let Blood, but found no Benefit at all from it.

I GAVE him three Spoonfulls of the Decoction of *Rattle-snake Root*, by which he became very easy in about an Hour: I ordered it to be continued every six Hours, which accordingly was, for three Turns, when all the Symptoms went entirely off.

EXPECTORATION, in this Case, was very copiously raised, even by the first Dose of the Decoction, and a greater Quantity of Matter evacuated that Way, than in any Case of this Sort I ever had observed before, as well as Evacuation by Stool: And from this I was inclined to think, that if the Decoction had not at that Time been given, an Impoſthumation of the *Diaphragma* would have been unavoidable in a short Time after, whence would have followed a Corroſion of the Bowels, Conſumption and Death; (a) which often has happened in these Diseases.

Dr. RICHARD MEAD.

cases in *Virginia*. This Patient, however, recovered in Fourteen or Fifteen Days Time, to a very good State of Health; and the Case is certainly worthy of Remark.

**APARAPHRENITIS** continued this Year to be epidemic till May, when the Inhabitants began to grow healthy, as is common: And I know not of one Instance where the Root failed, given either in Powder, Tincture, or Decoction, and, in many Cases, I knew it to be given; but as these three are the most notable, I have here stated them.

### CASE VI. Febr. 15. 1735.

A MAN, about Twenty eight Years old, was seized with a *Pleurisy* and *Peripneumony*, let Blood five Times, and treated with the usual Methods in such Cases, viz. *Blisters*, *Volatiles*, *Pectorals*, and *Glisters*,

Especially

as

as also an *Infusion of Stone-Horse Dung*  
and *Castor*.

ON the 22d, I was sent for to him, and  
found his Case as follows.

A slow, quick, intermitting Pulse, the  
utmost Difficulty in Respiration, Expectora-  
tion stop, his Cough very troublesome,  
a most intense Pain of his Left-side, livid  
Spots a little above the *Scapular Cordis*,  
limpid Urine, and sometimes convulsed;  
and notwithstanding of all those Symp-  
toms, no *Delirium* attended him.

I IMMEDIATELY gave him three  
Spoonfulls of the Tincture of *Rattle-snake*  
*Root*. In two Hours he was perfectly freed  
from his Pain, his Pulse regular and full, but  
yet quick, tho' in that much abated, his  
Breathing very free, Expectoration easy and  
copious, and the Convulsions quite gone.  
The Tincture was repeated in six Hours,  
and so continued.



ON the 23d I found him sitting up, and entirely free from all the Symptoms, except the Cough, which continued troubling him now and then; but entirely left him in Ten Days Time. This Patient's Urine I observed was limpid; But his Friends told me, That after the second Dose of the Tincture, there was a red Sediment therein; And the same I found very copious, when I visited him the second Time: And notwithstanding that this Case was of so extraordinary a Nature, yet the Patient was perfectly recovered in Fourteen Days Time, to his former State of Health.

### CASE VII. May 11. 1737.

A Woman, aged about Thirty, was seized with a Pleurisy and Peripneumony, and had been treated with the usual Methods in such Cases, viz. Bleeding, Blisters, Volatiles, Pectorals, Glysters, an Infusion of Stone-Horse Dung and Castor,

Ec.

and strength in about ten Days Time.

ON the 20th, she was again attack'd with all the Symptoms, to an equal Degree as at first, and by the same Methods as before, recovered on the 28th.

ON the 10th of June, all the Symptoms returned with more Violence than at any of the other Times she was taken, especially the Difficulty in Breathing, and Cough. Hereupon judging that *Blood-letting* could not be of Service, but rather of ill Consequence, by increasing the Blood's Viscidity, since it had been so copiously performed before, I gave her three Spoonfulls of the Decoction of *Rattle-snake Root*, which so powerfully influenced her Case, that in two Hours Time Respiration was perfectly easy, Expectoration copious, and the Pulse, which before was quick, low and intermitting, now regular and full, tho' something quick. In six Hours the Decoction was repeated, and in Twenty four Hours after, by continuing it, all the

the Symptoms went entirely off, so that this Patient was recovered to her former Health and Strength in about ten Days Time.

**CASE VIII. March 18. 1737.**

A Man, aged Forty eight, after having been affected with *slow erratic Fevers*, and *scorbutical Eruptions*, for the Space of six Months, was invaded with a *Pleurisy* and *Peripneumony*. He apprehending very great Danger to be in his Case, immediately sent for me, and I found it as follows.

A Low, quick, intermitting Pulse, hardly to be felt, and upon the least Pressure, would disappear, a total Uneasiness of his whole Body, and Head-ach.

FROM these Symptoms, and what Observations I had made in Cases of that Nature, I suspected the Disease to be an occult *Pleurisy* or *Peripneumony*; therefore I took  
the  
away



away ten Ounces of Blood from the Arm, and immediately after gave him three Spoonfulls of the Decoction of *Rattle-snake Root*. In less than an Hour a violent Fever arose, attended with a most intense Pain of the Left-side and Breast; whereupon I repeated Blood-letting, and gave nothing for two Hours after, being desirous to see what Effect that would have; but finding no Amendment, I repeated the Decoction of the Root, by which he had a great deal of Ease; and in four Hours Time had two loose Stools. The Decoction was repeated every six Hours, and on the 19th he was much better.

ON the 20th, he grew much worse, having a very violent Cough, Difficulty in Breathing, the Fever increased, convulsed at the *Scorbiculus Cordis*, and all those attended with a *Delirium*. I repeated Bleeding copiously, and continued the Decoction of the Root as before, which now purged him very briskly.

ON

ON the 21<sup>st</sup>, there was such an Abatement of all the Symptoms, that he was, in all Appearance, out of Danger, and he walk'd about the Room, had a white Sediment in his Urine, and continued pretty well till the 23<sup>d</sup>, when he was again seized with more Violence than ever, viz. with a very high Fever, intermitting Pulse sometimes, *Delirium*, Cough, Difficulty in Breathing, convulsed at the *Scorbiculus Cordis*, and sparkling Eyes.

I REPEATED Blood-letting, but would give no more of the Decoction of the Root; not from any Diffidence I had in the Efficacy of it, but to avoid Reflection from those who, perhaps, might be glad of the least Appearance of Room to blame me for persisting in my Method of Cure with that Medicine; Therefore, I applied *Blisters*, gave *Pectorals*, *Volatiles*, *Glysters*, and, in short, had Recourse to the common Method in such Diseases. I also gave a Dram of the *Pulvis ad Guttetam*, with the *Cinnabar of Antimony*,

mony, every four Hours, in a little *Mallow*  
*Mallow Tea*, which was the ordinary Drink.

ON the 24th, no Amendment. On the  
25th, all Things the same; 26th, rather  
worse; therefore I repeated *Bleeding*, ap-  
plied more *Blisters*, continued the *Volatiles*  
and *Pectorals*, and the *Pulvis ad Guttetam*,  
as before; and I also gave an Infusion of  
*Stone-Horse Dung* and *Castor*, every now  
and then.

ON the 27th, all the Symptoms were  
much increased; 28th, all Things the same;  
29th, rather worse. Now plainly seeing  
that this Patient could not live but a very  
short Time, and as I had tried the most effi-  
cacious Methods prescribed by the best Au-  
thorities in such Cases, in vain; and as the  
Patient himself told me, That he found Be-  
nefit from nothing except the Root, and de-  
clared he would take nothing else; in such  
a Case, therefore, I deem'd myself justifi-  
able in giving it again, let the Consequence  
be what it would: Accordingly I repeated

the



the Decoction of the Root, whereupon, in four Hours, the Symptoms began to abate, and his Urine had a Sediment of a white Colour, which encouraged me to continue the Decoction. On the 30th, a red Sediment in his Urine, and all the Symptoms entirely left him.

THIS Case was the only one in which I ever succeeded, that was so circumstanced; for I never knew one other Patient recover that had been subject to a chronical Illness of this Sort before, and then invaded with such an acute Disease. Whence it is very plain and manifest, that the Cohesions of the Blood must, in such Cases, be of such a Sort as not to be broke and divided in a proper Manner, for the Solution of the Disease, by Urine, which is the Crisis of a *Pleurisy* or *Peripneumony*, by the common Methods prescribed; since, in this, they were duly complied with, but to no Purpose; And therefore, since this Root so powerfully breaks and divides the Viscidity, or Coagulation of

the Blood, which constitutes a *Pleurisy*, if then promises something extraordinary in Medicine, since it is certain that there is no such Thing as a Specifick, or Medicine adapted solely to one Disease; and also, since it is certain that there is a nearer Analogy between many Distempers than is commonly admitted.

I SHALL make another Observation upon this Patient's Case. I took Notice, that on the 21<sup>st</sup> there was an Abatement of the Symptoms, or a Remission of the Disease, and that there was a white Sediment in this Urine; and I also have taken Notice, that no *Pleuritick Patients* in *Virginia* recover, without a copious Sediment in their Urine, of a Brick Dust Colour. Now, I know it to be a Practice here in *Britain*, to give the *Peruvian Bark*, when there is a Remission of the Fever in such a Case, with Success, I am told. In *Virginia* I have known it done; but that Patient so treated there surely dies. Therefore, if it be true, that in the

Remission

Remission of a *Pleurisick Fever* in *Britain*, the *Peruvian Bark* will take Place, so as to recover the Patient, and has a quite contrary Effect in *Virginia*, then it follows, that this Root will have a greater Effect in *Pleurisies* in *Britain* than in those of *Virginia*; Because the Contraction and Vibration of the Solids, which is supposed to be the Effect of the Bark, removes or dislodges the remaining Viscidity, after the Remission of the Fever, in *Pleurisies* in *Britain*. But, in *Virginia*, that Operation of the Bark shuts up the remaining Viscidity, whereby the Patient dies.

HENCE it appears, That the *Seneca Rattle-snake Root* must have a quicker Effect in *Pleurisies* of *Britain* than those of *Virginia*; because it effects that Separation or Division of the Particles of the Blood, or morbidick Matter, on which depends the Cure of the Patient, as appears by the Sediment in the Urine, of a Brick Dust Colour.

The



The Truth of this Inference I submit to  
your Judgment.

## CASE IX. March 25 1737.

A MAN, aged Sixty three, was invaded  
with a *Pleurisy* and *Peripneumony*,  
he had been let Blood three Times copiously,  
also blistered in many Places, and had been  
followed up with all the common Methods  
of Cure, as before I have taken Notice of,  
till the Thirtieth, when I was called, and  
found him as follows.

A high and quick Pulse, Difficulty in  
Breathing, *Subsultus tendinum*, a most acute  
Pain of his Side, and irksome Cough, with  
no Expectoration.

I REPEATED Bleeding, and, immedi-  
ately after, gave him three Spoonfulls of  
the Decoction of *Rattle-snake Root*. In less  
than half an Hour he was perfectly freed  
from his Pain, and, in some Measure, all  
the

the other Symptoms were abated. In about five Hours Time there was such a great Abatement of all the Symptoms, which perhaps some People could hardly credit, unless they had seen this Patient.

ON the 3<sup>d</sup>, about Seven in the Evening, the Pain of his Side returned with the utmost Violence, but not accompanied with any of the other Symptoms. Upon giving the Decoction of the Root, the Pain went off in an Hour's Time. This, however, gave me Reason to examine into the State of his Urine; and I found, that the Sediment was not so perfectly red, as when a Patient is out of Danger; yet all the Symptoms were disappeared: But nevertheless, I ordered the Continuance of the Decoction of the Root every Six Hours.

ON the First of April, about Seven in the Evening, the Pain of his Side returned with the same Violence as before, and also on the 2<sup>d</sup> and 3<sup>d</sup>, and within a few Minutes

notes of the same Time in all the Relapses : And this was very extraordinary, that none of the other Symptoms accompanied the violent Pain, at none of the Times of its Return. The Decoction of the Root was only given as directed, from which he always had Ease, even at the Time when the Pain seized him with so much Violence ; and tho' he took it constantly every Six Hours, yet the Pains returned near the same Time, once in Twenty four Hours.

ON the 4th, the Pain did not return, and that Day, I found a very large Sediment in his Urine, of a red Colour than there had been any of the other Days.

DURING the whole Course of my Practice, I never met with a Case of this Sort ; and how it happened, that the Return of the Pain was so regular, and without being accompanied with any of the other Symptoms, is what I don't take upon me to account for on this Occasion.

CASE



## CASE X. March 28. 1737.

A WOMAN, aged about Thirty, was invaded with a *Pleurisy* and *Peripneumony*, and had been let Blood four Times copiously. The Person to whom she had applied for her Recovery, had given her refrigerating Medicines, such as *Sal prunella*, *Saccharum Saturni*, &c. every four Hours. On the 30th I was sent for, and found her in a somniferous Condition, convulsed now and then, livid Spots on her Arms, Hands and Face, and Difficulty in Breathing.

I IMMEDIATELY gave her four Spoonfulls of the Tincture of *Rattle-snake Root*. In an Hour her Pulse, which before could hardly be felt, began to beat very strong, and her Face became of a very florid Colour, which was followed with a Pain of the Left-side. I immediately repeated the Dose of the Tincture; and in about Half an Hour, she declared that she was perfectly  
H easy;

*An Epistle to*  
 easy; whereupon I left her, and gave Directions for to continue the Tincture every six Hours, but to give only two Spoonfulls for a Dose.

ON the 31<sup>st</sup>, I found her quite free from all the Symptoms common to that Disease, except the Cough, and some small Difficulty in Breathing. Upon this, I ordered the Decoction to be given instead of the Tincture, and to encourage its Operation by Stool, with Draughts of Tea, made of *Mallow* and *Peach Leaves*, which accordingly was done.

ON the 1<sup>st</sup> of *April*, she was almost quite free from the Cough and Shortness of Breath, and then appeared the Sediment common upon the Solution of this Disease, very copious, and of a Brick Dust Colour.

ON the 2<sup>d</sup>, I ordered the Decoction to be discontinued; and this Patient was in a good State of Health in a Week's Time.

THESE, Sir, are the most notable Cases, among a vast Number, that occurred to me  
 in

in my Practice, which serve to shew the great  
 Efficacy of the *Scheta Rattle-snake Root*,  
 In Viscidities and Coagulations of the Blood.

I HAVE omitted to take Notice, that I  
 made the Tincture with the *Valerian* and  
*Rattle-snake Root*, in nervous Cases, till,  
 from several Instances, I plainly saw, there  
 was no Occasion for the *Valerian*, the latter  
 answering all the Intentions of Cure, both  
 in nervous and inflammatory Cases: But till I  
 was satisfied of this from Experience, I judg-  
 ed it requisite to give a known nervous Me-  
 dicine with it; for, I think there is the  
 greatest Circumspection requisite where Life  
 depends. And the general Success of that  
 Medicine in recovering *Pleuriticks* and *Pe-  
 ripneumonicks*, is in about three Days Time,  
 as before observed.

THAT this Root will be of Service in  
 many Diseases of Great Britain, both acute  
 and chronick, will, I believe, be admitted  
 from probable Reasoning: But further Expe-  
 H 2 rience



rience will demonstrate its Efficacy in this Climate; and as you have done me the Honour to countenance this Discovery of mine, I doubt not, that therefore Mankind will readily have Recourse to so valuable a Medicine.

*I am, Sir,*

*with the greatest Esteem and Regard,*

*your most obliged, and most obedient*

*humble Servant,*

JNO: TENNENT.



THE

An Epistle to, &c.

63

will demonstrate its Efficacy in this

not to countenance this Discovery of mine,

I doubt not, that the Mankind will

readily have Recourse to so valuable a Me-

# APPENDIX.

**T**HE Design of this *Appendix* being to demonstrate the highest Probability, that the *Seneca Rattle-snake Root* will be of more extensive Use than any Medicine in the whole *Materia Medica*; and lest I should, by some, be charged with too great an Opinion of my own Invention, I shall first represent the Uncertainty there is in Physical Enquiry, that from thence it may appear what is the most solid Way of Reasoning, in order for the Improvement of the Knowledge of Physick, and that I am very far from flattering myself with Expectations beyond what are reasonable, notwithstanding of the great Success of this Medicine in many Cases.

So

So dark and uncertain is the Chain of Reasoning and Connection in natural Philosophy, that the greatest Certainty to be come at, for the most Part, amounts to no more, than that a given Effect is, in all Probability, produced by a certain Cause assigned; not so certain, but that the given Effect may possibly be produced by some other Cause, not in the Reach of our Discovery, when accounting for it: But nevertheless, when no Inconvenience appears to an unprejudiced Enquirer, in admitting a certain Effect to be produced by the Cause assigned, then it is highly probable, that the Cause assigned is the real one producing the Effect. And of such Certainty, and no other, are the Propositions of a Physical Subject, for the most Part.

WHEREFORE, till by a sufficient Number of true and accurate Observations on the Operations of Nature, her Laws and Affections are better known, than they are in the present Age, 'twill be quite needless to offer



offer to demonstrate mathematically their *Modus operandi*, as is unsuccessfully endeavoured. And admit, that now there were sufficient *Data*, to make such a Solution, it must be allowed that no great Advantage could arise from it; because, when we know by our Observations, that Nature, under such and such Circumstances, I shall suppose in a *Pleuritic Fever*, throws off the Disease by Urine, to what Purpose is it to demonstrate mathematically the Celerity of the Blood's Motion, the Quantity of Blood passing through the Heart in a certain Time, or the Extent of the Diameters of the Particles of the febrile Matter to throw off in such a Disease, when, in Fact, we find that such Matter, flung off by Urine, is the Crisis of a *Pleurisy*, *Peripneumony*, and most Diseases of the Breast, and that that Crisis is most readily obtained by such and such Medicines?

It is most certain, however, that 'tis requisite to know, for what Reasons it is that  
such

such a Medicine is the best to cure such a Disease, and why it is improper in another Case, that thence Inferences may be drawn, how far it may be useful or hurtful in other Cases: For this End, a Proof of the Analogy between Diseases is requisite; and this Proof, as I observed before, is to be found by no other Means than a continued Series of accurate Observations on the Laws and Affections of Nature. And as to the Property of the Medicine effecting the Cure, there are several Ways pointed at to determine it, by the present Philosophy, which indeed carry a very great Probability; and yet, from Facts and Observations, it is plain, tho' this Philosophy is accounted the most certain of any that has hitherto appeared on the Stage, there are certain Properties which Matter is endued with, not yet within the Reach of our Discovery; for Instance, It is well known, that the *Peruvian Bark* is a very certain Remedy in an *intermitting Fever*. The Cause assigned for the Production of this Disease, is a Relaxation of the Solids, and

# APPENDIX 65

and Viscidity of Blood. The *Peruvian Bark* consists of rough and small angular Parts, and is specifically heavier than the Blood; the former Property corrugates and draws up the *Fibres*, whereby the Relaxation is removed, and also the Blood's Viscidity in some Measure; and the latter increases its *Momentum*: So that the Relaxation and Viscidity, are, by these two Properties of the Bark, entirely removed, wherein consists the Cure. Now, it seems from hence to appear, that a Medicine consisting of rough and small angular Parts, and specifically heavier than the Blood, of which Kind there are many in the *Materia Medica*, must cure an intermitting Fever: But Experience shews the contrary in many Instances, tho' it is most certain, that those Properties of the Bark have a great Share in the Operation; and therefore, it is evident, that the highest Probabilities do not always succeed in physical Enquiry; and since that is all the Certainty it is yet come to, how can we pretend to reduce it to mathematical Demonstration?



The Subject of Mathematicke exists not in Nature, save in our Idea only; and its Demonstrations carry such an evident Chain of Connection, as are undeniable. But there are certain Properties originally impressed on Matter by its wise Author, the Knowledge of which is the Subject of Physick; and how we should believe material Bodies to have certain Properties before we know them from Observation and Facts, appears to me very extraordinary.

I SHALL give another Instance of the Uncertainty and Darkness of Reasoning in Physick, which will still clearly shew, how unripe it is for mathematical Treatment.

DR. PITCAIRN, (a) treating of a legitimate Fever, describes it thus,

“By the Term *Fever* is understood an uniform Augmentation of the Blood’s Velocity, that is, an equal one in equal Spaces of Time, whence is conceived a Fever simple

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(a) *Elements of Physick*, Pag. 117.

"simple and only of one Period, or legitimate and true, and without the Concurrency of any other Disease."

HERE he considers it as arising from no vitiated State of the Blood; but from some remote Cause, such as "Drinking of strong Liquors, violent Exercise, Anger, or that which effectually and immediately produces an augmented Velocity of the Blood."

ACCORDING to this Account of a Fever, it is very evident, that the Cure must consist entirely in abating the Blood's Rarefaction, and that all *Stimuli* must be opposite to the Cure. Now, tho' this is a fair Consequence from the Premises, yet Doctor *Pitcairn* himself, in a positive Manner, recommends *Blisters*: And, that Blisters are endued with a very active and stimulating Property, is what I presume will be granted; yet nevertheless, he, after having in a particular and accurate Manner defin'd a Fever, as *simple and legitimate*, and without the

Concurrence of any other Disease, concludes thus,

“WHEREFORE, to come to the Cure,  
 “it is manifest, That the Cure of a legitimate Fever, accompanied by no other,  
 “is most expeditiously done by Bleeding, and  
 “by Remedies which abate the Blood’s Rarification; such as, *Sugar of Lead, purified*  
 “*Nitre, Spirit of Sulphur, Juice of Lemons,*  
 “*distilled Vinegar, Emulsions of the greater*  
 “*cold Seeds;* and more especially *Blisters*  
 “made with the Powder of *Cantharides,*  
 “which draw off Part of the *Serum* which is  
 “too much rarified.

It is most certain, that drawing Part of the *Serum* which is too much rarified, would be of very great Use, could it be done without so great an Inconveniency, as that great Increase of the Blood’s Motion, which must necessarily arise from the stimulating and active Salt of the *Cantharides*, both emitted into the Blood, and acting upon the *Fibres* at the same Time.

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To this Objection against *Blisters* in a *Legitimate Fever*, it may be answered, That the Inconvenience arising from the stimulating and active Salt of the *Cantharides*, is inconsiderable, in respect of the Advantage arising from the drawing off Part of the rarified *Serum*. But Experience, which cannot be contradicted, shews, That *Blisters* produce so good Effects in Diseases owing to Viscidities and Coagulations of the Blood, which would be surprising, were it not that such frequently occur; therefore, if the greatest Part of the good Effect of *Blisters*, was drawing off the *Serum* from the Blood, then, in Diseases owing to a Viscidity or Coagulation of the Blood, they would consequently have a bad Effect; because, in such Diseases, the Loss of the *Serum* must increase the Viscidity.

But, since it is found by Experience, that *Blisters* have very good Effects in Diseases owing to a Coagulation and Viscidity, such as *Pleurisies*, *Malignant Fevers*,  
*Apoplexies*,

*Apoplexia*, &c. it therefore follows, that they must have a bad Effect in a *Legitimate Fever*; for the Velocity of the Blood must certainly be augmented from the Activity of the Salts with which the *Cantharides* abound.

HENCE it is very evident, that the main Efficacy of *Blisters* consists in the stimulating Property of the *Cantharides*; for, from their Application, it is found, in Diseases owing to a Viscidity and Coagulation, that tho' the *Serum* is drawn off from the Blood, yet the Viscidity is removed.

AND hence it is fairly proved, that *Blisters* are hurtful in a *Legitimate Fever*: But Fact shews the contrary. The Question then is, how it can come to pass, that the same Cause should produce like Effects, under different Circumstances? In the one Case the Cause of the Disease is an augmented Velocity of the Blood, proceeding from some remote Cause. And in the other, the Cause

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Cause is some certain Matter mixed with the Blood, by which it is in a State of Rarification, and its Texture vitiated.

Thus, in the first Case, an Abatement of Motion is the Cure; And in the Second, the Cure must be effected by an Increase of Motion; and both these to be performed by the same Thing, viz. *Blisters*; which is an apparent Contradiction.

Hence it follows, that either there is a Relation between a *legitimate Fever*, and a Fever owing to a vitiated State of the Blood, which is called *Symptomack*, or else one and the same Cause will produce like Effects under different Circumstances, which is an apparent Contradiction, as just now observed.

Here the Question naturally arises, How can Mathematicks solve this Difficulty, or the other, as to the Operation of the *Peruvian Bark*? The Way to solve it, I apprehend to be by an Enquiry into all the  
Circum-



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Circumstances regarding a *legitimate* and *symptomattick* Fever; whence will appear the Reasons why *Blifters* are proper for both, and why other Medicines are proper in one of these Fevers, but not in the other; and this Enquiry into the Circumstances must be of a very different Nature from any Thing mathematical, for the Reasons before assigned.

FROM these Observations it appears, how difficult it is to draw certain Conclusions in Physical Inquisitions *a priori*, and also how necessary it is to draw Inferences from what *data* we already know, in order to hasten to a greater Perfection of Knowledge in a Matter which is of so great Concern to Mankind, as Health and Life.

HAVING so surprising a Fact before my Eyes, as a Root saving a Patient's Life bit by a *Rattle-snake*, the Effect of whose Venom induces a total Stagnation of the Blood in a few Minutes, my Enquiry was much raised, and I reasoned thus.

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THAT it was inconsistent with the Wisdom and Goodness of the omnipotent Being, to suppose, that a Medicine of such Efficacy could be confined to one Use only; for, nothing is more conspicuous in the Order of Nature, than a Multiplicity of Effects produced from a few and simple Causes, by which is painted its Beauty and Use, and the Wisdom, Power, and Goodness of its great Author.

My next Thought was, How such a sudden Stagnation of the Blood could be induced, whether from some certain Property of the Poison, when touching the Nerves, an Arrest of their Motion followed, which being communicated to their whole System, as there is an intimate Union through every Part thereof, the Circulation of the Blood, which depends thereon, was stop'd, and so occasioned Death; or, whether the *Saline Spicula* of the Venom of the Snake, with which it abounds, as appears by the Help of Microscopes, entered the Mass of Blood,

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and broke, cut, and divided its Globules, which is a Dissolution thereof, whereby a Coagulation must necessarily be produced, it being a heterogeneous Fluid. But on further thinking, I evidently saw, that let either of these Causes be the Effect of the Venom, a Coagulation of the Blood must necessarily follow; for, I shall suppose that the Venom acts upon the Nerves only, and arrests their Motion, the Circulation of the Blood will in that Case cease, upon which the Blood, being a heterogeneous Fluid, the Particles thereof, which, when the Circulation was not retarded, were intimately mixed one among another, and formed its uniform Consistence; but, upon a Cessation of this Motion, the Particles of a similar Nature would, by the Law of Nature, attract one another, which would cause both a Dissolution and Coagulation of the Blood: So that the final Effect I found would be the same, by which of either the Causes, or whatever Cause produced.

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Hinc et ita apparet, quod the Blood  
 must certainly be in such a State of Coagu-  
 lation a little before Death, whatever the  
 Disease is producing it: which leads to  
 mentioning Beerhaave's Opinion of a dying  
 Person, *Praxis Medica*, Pag 160. Vol. 4  
*Dubitavi an ullas lamen moriatur nisi per*  
*Peripneumoniam, nam omnes moribundi hoc*  
*morbo laborant, unde moritur ager febre ar-*  
*dente laborans? Quando ita anhelat, ut ani-*  
*ma ducere non posset, pectus mississime mo-*  
*veatur & sic suffocetur, hinc vix a morbo*  
*interno moritur ager, nisi a Peripneumonia,*  
*si Pulmonum vasa adhuc transeat, per reli-*  
*qua etiam transibit, hinc Peripneumonia est*  
*omnium lethaliu morborum ultima trage-*  
*dia, hoc patet ex ultima morientis actione,*  
*que anhelatio motus scapularum & clavi-*  
*cularum elevato abdomine sursum presso; hic*  
*morbus per 1/2 horae ante mortem fere semper*  
*oritur; tum sanguis a corde dextra expul-*  
*sus per pulmonis angustias transire nequit.*

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AND since many Diseases are owing to an antecedent Viscidity and Coagulation of the Blood, therefore this Root claim'd from me the greatest Regard. And I considered, that as most of the quick and surprising Operations of Medicines are from their acting upon the Nerves, this Root must be an excellent Medicine in nervous Diseases; because, by its suddenly recovering a Person from the Effect of the *Rattle-snake's* Venom, which is Death, proves it to operate upon the Nerves; for, it is impossible to produce so sudden an Effect otherwise, by the Structure of the human Body; and then its Operations, see *Epistle*, Page 6th, shew that it must also have a great Effect upon the Fluids. So that from these Considerations I was perswaded, that the *Seneca Rattle-snake Root* would be of very extensive Use in the Cure of many Diseases.

AND these Thoughts also occurred, viz. That the Particles of a Fluid, and those of a solid Body, must be of an opposite Figure, what.

whatever that Figure be; That whenever a Fluid becomes coagulated, its Particles are nearer to the Shape of those of a solid Body, otherwise it would not lose, in any Degree, its Fluidity; and that this Property of a fluid and solid Body, must extend through all the Particles of Matter in the Universe; that is, considering them in an abstracted Sense from their other Properties, and only as fluid and solid. Now I considered that Fire and Heat, when applied to a great many Bodies, renders them fluid, tho' not naturally so, and that most Bodies which are naturally fluid, when they lose, by some Cause or other, their Fluidity, are or may be recovered to their natural State, by exciting a Motion of their Particles, which, in Fact, is the Effect of Heat: And since restoring the lost Fluidity of Bodies, is by putting their Particles in Motion, and, as we find by Experience, that Fire and Heat are the Things which effect that Purpose in most Cases, why should it not be supposed, that Providence has extended this Benefit

further



further than we have yet Experienced, since we evidently find that the *Materia Medica* does not supply us with what is often wanted to prevent the Stagnation of the Blood in many Diseases? And surely it never will be denied, that the *Seneca Rattle-snake Root* promises to supply this Deficiency, since it removes such a Coagulation of the Blood as produces Death in a few Minutes, and recovers Patients in Diseases owing to a Source of the same Nature, as is shewn in the preceding Epistle.

AND now I shall come nearer the Matter, and endeavour to demonstrate, that this Root, in all Probability, will be of Service in the *Gout*, which I take to be curable, and also in the *Rheumatism*, *Dropsy*, and such Diseases: But first, I shall make the following Observations.

It may appear strange that I should venture to say the *Gout* is curable, since so great Authorities stand against me, and indeed Experience hitherto: But I beg Leave

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to observe, tho' some who have acquired great Characters in the World, do shamelessly give up this Point, and with Content, admit that severe Disease to be term'd *Opprobrium Medicorum*; and, to mend the Matter, say, That its Nature will not admit of a Cure; that it is inconsistent with the Design and Beauty of Nature, to have such a cruel Disease common among Mankind, who are the superior Beings of this Part of the Universe, and especially when we see brute Creatures exempted from such Calamities. And why we should be so ready to frame Reasons to prove an Impossibility of Cure, such as an *innate Impressa* in our Constitution, and the like, I can account for from no other Cause, than an *innate Pride* in some Men, who, when once they have got an implicit Faith to be paid to their Sentiments, and their Sentences regarded as those from an *Oracle*, by the common World, do impose that upon them which they think consists with aggrandizing their Name, or their Followers retaining the same good Opinion of them, however

however detrimental to the publick Benefit, so much do they subject themselves to their Passions: And by this Means it is, that the greatest Errors are handed down to us by those of great Note, whose Authority, when contemned, is looked upon as an high Offence, and the Man who so conducts himself, is esteem'd a Fool or mad Man.

THUS Mankind being bridled and confined in their Enquiries, together with some other Reasons, too evident to mention here, the Knowledge of Physick is but little improved. For Proof of this, I refer to the State of Physick in Time of *Hippocrates*, and others of the *Ancients*, where it is plain, that they were equally successful, or perhaps more, than the Moderns, in curing Diseases, notwithstanding of some useful Discoveries made since in Anatomy, and the Time that has passed, whereby many useful Observations might have been made; Whence it appears, that the Methods followed to obtain so good an End, as to relieve Mankind from such Inconveniences



entire off Life, as Diseases, and to give a Reprieve against Death, have not been the best.

As in these Observations I design Offence to no Man, I hope none will construct my Meaning otherways, than the Regard I have for Truth and the publick Cause, occasions my adhering to, what I think is, consistent with both; and now to the Point in Question.

I SHALL here consider the *Gout*, *Rheumatism*, *Dropsy*, &c. not under their own Denomination, but that of *Symptomatick Fevers*; because, on this Occasion, I don't pretend to enter upon a nice Discussion of the Nature of these Diseases singly, but shall treat of a *Symptomatick Fever* in a general Way, whereby I shall include many Diseases; from whence will be demonstrated the Probability of the extensive Use of the *Seneca Rattle-snake Root* in all *Symptomatick Fevers*; and as a Fever attends the *Gout*, *Rheumatism* and *Dropsy*, they are consequently included. It is Experience

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that must determine how far I am in the right; and if my Probabilities should be rejected, and not put on that fair Issue, I shall, from the Success that already has attended that Medicine, be encouraged to make a further Procedure, where I judge it reasonable: And then, Facts, which are uncontestable Evidence, will shew how far I judge right or wrong.

I SHALL premise as a Truth, that *Symptomatick Fevers* are much more common than Fevers, properly speaking, legitimate and true; and that a *Symptomatick Fever* depends upon some immediate Cause in the Blood, which causes its Rarefaction. I suppose this Premise will be admitted; because the Incidents producing a *Legitimate Fever*, do not so often occur, as the Causes to which *Symptomatick Fevers* are assigned, viz. Viscissitude of Weather, viscid Food, Obstruction of Perspiration, &c.

AND, further, it is manifest from Observation, That the Crisis of most Fevers are  
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the Concoction of some morbidick Matter in the Body; they being sometimes by Urine, Expectoration, Abscess, or intestinal Glands: And therefore, as they are the Concoction of some morbidick Matter, they cannot be a Crisis of a *Legitimate Fever*, according to its Nature and Definition.

Now, since it appears that most Fevers are *Symptomack*, and immediately depend upon some Matter retained in the Body, which should have been some Time before thrown off in the regular Course of some Secretion, or the Secretions; it therefore is evident, that, as this obstructed Matter must be differently modified according to the Circumstances previous to the Obstruction, so the Fever is differently constituted; sometimes it is inflammatory, intermittent, and nervous, which Class of Fevers take in the whole almost; and since *Symptomack Fevers* regard the present Discourse, I shall shew how they are produced; and from thence will appear, how useful a Medicine



the *Rattle-snake Root* must be in such Dis-  
eases.

I SHALL take it for granted, that some of the remote Causes before assigned, will cause a Suppression of some Evacuation: Whence it follows, that the Blood will increase in Quantity; and consequently, that there will be an Increase of the fluid Secretions, in a Proportion greater than the thicker: So that the animal Spirits will be faster separated in the Brain; and the Vibrations of the Solids will thereby become quicker and stronger: And thus will the Blood's Rarefaction be begun, and will continue till the morbidick Matter is thrown off by some of the Secretions, or in an Abscess upon some particular Part; or else until the Solids are quite wore out, and have lost their Springs, whence ensues a total Stagnation and Death (a). Thus is a *Symptomack Fever* produced. Now it is very evident that the Cure of such a Fever is to be performed by  
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(a) Dr. Wamwright's *Animal Secretion*.

that which will attenuate the morbid Matter and the vitiated Texture of the Blood causing its Rarefaction, as just now has been shewn; for, by this Means, the morbid Matter will be fitted for its Expulsion, by some of the Secretions, which is the Crisis of the Disease. Now, to administer refrigerating Medicines in this Kind of Fever, that are very proper in a *Legitimate Fever*, where the Disease is nothing else than an Augmentation of the Blood's Velocity, would disturb the Effort of Nature in driving out the Enemy: I say, that in this Case, refrigerating Medicines will not only disturb Nature in her Endeavours, but effectually hinder her from doing any Service at all: Therefore, in this Light considering a mortal *Symptomack Fever*, it is very plain, that the Cure would be as certain, as that of *Intermitting Fevers*, if a Remedy could be got of such a Nature, as to attenuate and divide the Particles of the morbid Matter, and Texture of the Blood thereby vitiated, to a sufficient Degree to be carried off by some of the

the Evacuations: Therefore, as the Certainty of Cure of *Intermitting Fevers*, with *Peruvian Bark*, is well known to be very great, such a Medicine would be of very great Use to the World, since *Symptomatick Fevers* are more common than *Intermittents*, and often mortal.

I N order to prove a Possibility of such Certainty of Cure, it is requisite to examine into the Analogy between a mortal *Symptomatick Fever* and an *Intermittent*.

F O R Brevity, I shall premise, That an *Intermitting Fever* is produced immediately from a certain Quantity of Matter which should have been perspired in the Space of Twenty four Hours before, if it is a *Quotidian*; if a *Tertian*, in the Space of Forty eight Hours; and if a *Quartan*, in the Space of Seventy two Hours. Now it is found by Experience, that the *Peruvian Bark*, if given in the Intermission of the Fever, certainly prevents a Return of the Fit, for some Time: And the Reason why the Fever returns,



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turns, is the Relaxation of the Solids and Blood's Viscidity not entirely removed, by which Means the perspirable Matter is obstructed, and forms a new Paroxysm.

BUT, to find this Analogy more clearly, I shall enquire whence it is, that the *Peruvian Bark* cures an *Intermitting Fever* with such Certainty, and why the Bark will not answer the End, if given in the Paroxysm: And from thence will appear the Relation between a mortal *Symptomack Fever* and an *Intermittent*, very evidently.

THE obstructed Matter, which should have been perspired, depends upon the Viscidity of Blood, and that upon a Relaxation of the Solids: Therefore, breaking the Blood's Viscidity, and restoring to the Solids their natural Tensivity, will, in this Case, perform the Cure, which must be done while the Fever is absent; for, tho' while the Fever is present, the Viscidity may be removed; yet, as that depends upon the Relaxation of the Solids, which must certainly increase after

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ter every Paroxysm, as then the Agitation of the Blood against the Sides of the Vessels must impress a greater Force upon them than they can bear, the Fibres, of which they are composed, being in a lax State ; the Viscidity of Blood will consequently increase after every Paroxysm ; and by that Means, the Fever will translate from a *Quotidian* to a *Tertian*, thence to a *Quartan*, and next to some other Disease, as appears by Observation : Hence it is, that the *Peruvian Bark* will not take Place, if given in the Paroxysm ; because, from its Operation upon the Fibres at that Time, their Elasticity, on which the Cure really depends, will undoubtedly be much weakned ; and consequently, the Disease will be rather confirmed ; nay, this is not all the ill Consequence which may arise from giving the Bark in the Paroxysm ; for, it has been observed, that a Fever of a very malignant Nature, sometimes is the Effect of such Management ; because the morbidick Matter, or Lensor, constituting the Fever, is thereby closed up, and so acquires stronger Cohesions.

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WHEREFORE, the Cure consists in restoring to the Fibres their due Tensity, as well as removing the Lensor, and both to be effected when there is an Intermission of the Fever. To perform both these Operations, the *Peruvian Bark* is admirably well fitted; for it is well known that it consists of very small, solid and irregular Parts, and that it is specifically heavier than the Blood, see Page 65; whence it is very evident, the the Blood's Viscidity must effectually, by it, be removed, and also the Fibres restored to their natural Tensity; because the Irregularity of its Parts disengages the viscid Particles of the Blood; and its Weight, with that Property, gives to the Blood a greater *Momentum*, and draws up the Fibres, by pricking them in the Course of Circulation: And from these Operations, the certain Cure of *intermitting Fevers* with *Peruvian Bark* is accounted for; whence will appear the Relation between such Fevers, and those that are inflammatory, by the following Reasons.

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I SHALL first observe, that *Peruvian Bark* would very probably serve for the Cure of a mortal *symptomick Fever*, were it not for that Inconvenience which must arise from its pointed Parts; for, as it is specifically heavier than the Blood, and composed of irregular Parts, the Matter constituting the Fever, and the vitiated Texture of the Blood, would be changed thereby: But since, in Fact, it is known, that even in an *intermitting Fever*, if the *Bark* be given in the Fit, a Translocation of the Fever to another of a worse Kind, is the Consequence; then, in such a dangerous Fever, some very ill Effect would follow; because, since closing up of the morbidick Matter in an *intermitting Fever*, which Nature would otherwise have been able to throw off in a few Hours, renders the Fever continual; then consequently, to shut up the morbidick Matter in a Fever, which Nature could not fling off, in less than six or eight Days, even with proper Assistance, some extraordinary ill Symptom must needs arise.

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# APPENDIX

However, from this Observation it is evident, that the Cure of a mortal *symptomatick* Fever consists of the same Kind as an *Intermittent*; for, if it be true, as it certainly is, that such a dangerous Fever is owing to the Suppression of some Evacuation which constitutes some morbidick Matter, and sometimes increases the Quantity of the Blood, as appears, *Page 84*, there is no Question, but that attenuating this morbidick Matter, and reducing the Quantity of Blood, is the direct Way to effect a Cure. I speak here of a Fever, where the morbidick Matter is not form'd into an Abscess. Indeed it may be objected, that tho' the Quantity of Blood is diminished, attenuating the morbidick Matter may not be sufficient, because, from such an Operation, it may be drove into the very remote Vessels, upon some Organ, perhaps the Lungs. But to this I answer, That other Evacuations, besides Bleeding, will obviate this Inconvenience, *viz.* by Stool, or Urine, in a proper Manner.

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HENCE it appears, that the Relation between a mortal *symptomack* Fever, and an *Intermittent*, consists in some morbidick Matter constituting both Diseases, and is of such a Nature, as requires to be reduced to a due Minuteness, in order for a Cure: And that the Difference between these Relations of the morbidick Matter, is, That the Degree of the Cohesion of the Particles of a mortal *symptomack* Fever, is greater than that of an *Intermittent*, and that in the Solids are in a State of Relaxation later. But, before I leave this Matter, I shall make appear, from Matters of Fact, the Truth of this Inference.

FOR this End I refer to *Morton* (c), where that Author gives several Instances, which demonstrate, with all the Clearness of Evidence imaginable, that when the Cohesion of the Particles of the morbidick Matter

(c) *De morb. acutis universislibus. De Proteiformi Febr. cont. Genie.*



in a mortal *Symptomatick Fever*, is in some Degree broke, and divided by *Plebotomy*, *Emeticks*, *Sudoreticks*, &c. that there is a Remission of the Fever to such a Degree, that the *Peruvian Bark* will take Place, guarded with Medicines of a mucilaginous Nature, to hinder it from pricking the Fibres, because of the Inconvenience mentioned Page 88. Therefore, since Matters of Fact are incontestable Evidence, it follows, that mortal *Symptomatick Fevers* do, in their Nature, admit of a Cure, as certain as *Intermittents* with *Peruvian Bark*; and that the Cure consists in attenuating the morbidick Matter, and Texture of the Blood, with proper Evacu-  
uations at the same Time.

THAT the *Seneca Rattle-snake Root* is endowed with Properties, to a peculiar Degree, to attenuate the Fluids and Blood, and making Evacu-  
uations at the same, is fully proven from undeniable Evidence; and that the Particles of the gouty Matter would by no Means constitute a Fit of the Gout, could they

they be reduced to a sufficient Degree of Minuteness and Fluidity, as to be carried off by the common Evacuations, is most certain; because the best Methods prescribed, which, in some Measure, are of Service, are calculated for that End, viz. Exercise on Horse-back in a pure Air, *Mercurial Medicines*, *Aromatick Bitters*, *Lexivial Salts*, *warm Catharticks*, *Antiscorbuticks*, *Volatiles*, &c. All which Methods contribute to attenuate and thin the Blood, and consequently to have the ordinary Secretions duly complied with. Besides, the State of the Blood in the Gout being analagous to that in a *Pleurisy*, and the *Rattle-snake Root* being a most successful Remedy in that Disease, from Experience, demonstrates a high Probability that it will also answer in the Gout. That there is an Analogy in the State of the Blood of a pleuritick and gouty Patient, appears very plainly, in regard that the Blood exhibits the same Phenomena in both Cases, and that much the same Methods

thods answer in both (a). And that the same Observation is true in *Rheumatic* Cases cannot be denied: And in *Dropical* States, especially an *Anasarca* and *Leucophlegmatia*, the Blood is of a fizy Consistence; and the Cure is effected by *Catharticks*, *Diureticks*, gentle *Emeticks*, and attenuating Medicines; all which Properties the *Rattle-snake Root* has of an uncommon Kind, and to a Degree which will suit these Diseases better than any Medicine in the whole *Materia Medica*: And then, from its acting upon the Nerves so powerfully, as appears from its saving a Patient from Death bit by the *Rattle-snake*, and its sudden Effect in *pleuritick* Diseases, demonstrates the highest Probability that it will be of great Use in nervous Diseases; because there is no Medicine yet known that acts so instantaneously to a good Purpose.

I THINK I have now performed my Promise, in demonstrating a high Probability, that



that this Root will be of more extensive Use, than any Medicine in the *Materia Medica*: But how far I am in the Right, Experience, as I observed before, must determine; for it often happens, that tho' Things carry a great Probability, when they are put to the Trial, do fail; yet Probabilities are not to be rejected on that Account, because there is no other Way to make Advances than by probable Reasoning, built upon as many *Data* as can be found regarding the Subject of our Enquiry.

THE Effects of this Medicine in the Gout is proved in two Instances, one in *Virginia*, in the Case of Mr. *Matthew Kemp*, Clerk of the Secretary's Office, who, after having been greatly affected with the Gout for many Years, applied to me for Advice. I prescribed for him the Tincture of *Rattlesnake Root*, as given in a *Pleurisy*, to be taken twice in a Day, in such Quantity as not to incommode him, and to be continued twelve Months. He had his cardinal Fits every

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every Spring and Autumn, and erratick Fits in the mean Time, and had chalk Stones. By the Use of this Medicine for six Months, he grew more active, vigorous, strong and fleshy, lost his cardinal Fit, which he always had in *March*, and had no erratick Fit afterwards, except one very small, occasioned by his throwing off a flannel Waistcoat he had been accustomed to wear, and a cold Day immediately following; but upon doubling the Dose of the Tincture, it went off in two or three Days Time. Last *June* he was in a better State than he had been for many Years, but how he is now, I know not.

THE other Case is nearer at Hand, *viz.* Mr. *Whittfield*, a *Turkey* Merchant in *Chelsea*, who had been affected with the Gout for a long Time, lived in *Alleppo* in *Turkey* several Years, came to *England*, was affected with a Sluggishness of his Body at Times, attended with erratick Fevers, and especially after Eating, occasioned, I think, through  

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the Climate of *Turkey*. When I was in *London* he applied to me for Advice, and I prescribed him the Tincture of *Rattle-snake Root*, in the same Manner as to Mr. *Kemp*. After about two Months taking it, he was freed from his Sluggishness and Fevers, and had not his cardinal Fit of the Gout in *October*, which he had not miss'd before.

THESE Facts certainly deserve some Notice, but I am not so fond of my Medicine, to draw any positive Conclusion from them, without a greater Number. The Case of Dr. *Monro* Physician to *Bedlam*, is also a Fact which I should not omit taking Notice of. That Gentleman had for above Twelve Months been affected with a Fever, which sometimes personated a *Quartan*, and, at other Times was *erratick*, attended with Rigors now and then. He had used *Chalybeats*, *aromatick Bitters*, *Subastringents*, cold Bathing, and had been at *Bath*, and drank the Waters there, but to little Purpose. He was pleased to honour me with taking my Advice, as *Virginia* is much subject to such Diseases:



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Diseases : I prescribed him Two Spoonfulls of the Decoction of *Rattle-snake Root*, as given in a *Pleurisy*, to be taken every Morning, an Hour before he got out of Bed ; and by following this Method about Sixteen Mornings, he was freed from his Disorder ; and his Complexion, which before was very wan, became florid ; and I left him last *November* in *London*, in a healthful State.

THESE Facts, and those in my Epistle, joined with the Probabilities I have demonstrated, will, I hope, by Men of Sense, be judged reasonable Grounds to introduce the *Seneca Rattle-snake Root* into Practice ; and I shall conclude with this Observation.

THE *Peruvian Bark* and *Mercury*, which are of greater Use than any two Medicines in the *Materia Medica*, were much suspected in former Days, from the various Opinions of Men concerning their Effects upon the human Body ; but Experience evidently shews their Mistakes, and that there are many Operations affected by Medicines

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upon the human Body, which to them seem'd impossible: For Instance, if any Man had, in former Days, said that he knew a Medicine which would cure, almost with absolute Certainty, an *Intermitting Fever*, or any of those Diseases which *Mercury* so certainly cures, he would not have been believed, but considered as an Empirick and Pretender; and indeed, I am sorry to see the same Error still subsist, tho' we have such flagrant Evidence to act a contrary Part: And then again, to remedy this Evil, it is difficult; because, when ever a Discovery is made, the Discoverer makes an *Arcaenum* of it, for his private Interest; and a Man so conducting himself is disregarded, and indeed with good Reason. But, how will the Matter be mended? For, admit a Man really to be so disinterested and humane, as to publish his Discovery, the World have now got into such a Way of Thinking, as not to believe he did it upon so good a Motive, but that he has some sinister View in it; and then, some Men who really may believe the  
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Thing, are so base as to bear it down, by their popular Interest, because it infringes upon their Interest, and perhaps they imagine their Grandeur is also impaired thereby.

HENCE it is, that the Improvement of the Art of *Medicine* is at a Stand. Let every Man therefore, duly consider how he can answer such a Conduct to himself, and how inconsistent it is with the Design of his Creation ; and then, I perswade myself, we shall make hastier Advances, in making Discoveries which relate to Mankind in what is so essential to render Life free from many severe Inconveniencies. But, till this be done, I am afraid the Art of *Physick* will be not much better than at its *Ne plus ultra*.

FOR my Part, whatever my Treatment be from the World for the Publication of my Discovery, I shall always judge it right to communicate, in the most open Manner, all Discoveries that are made, of whatever Worth they be. It may here be objected,



jected, That there can be no such Duty incumbent on any Man in his single Station, to throw out of his Hands a certain Benefit for the Publick, unless they, in their collective Body, consider him for it. To this I answer, When it appears, that Men in their single Station are so generous and benevolent to act such a Part, there is no Doubt but those at the Helm of Administration of publick Affairs, will duly consider them. If once that Way is begun, it certainly will not pass unregarded; and then I am in great Hopes, that many Improvements will be made in Physick, and that the Phrase,

*Tollere Nodosam nescit Medicina Podagram,*

Will be changed thus,

*Tollere Nodosam nunc scit Medicina Podagram.*



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P. I. N. I. S.